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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 10/517,276 | 04/16/2005 | Gerhard Klein | 2213 0084US | 2818 |
| 29894 | 7590 | 12/13/2005 | | |
| DREISS, FUHLENDORF, STEIMLE & BECKER POSTFACH 10 37 62 D-70032 STUTTGART, GERMANY | | | | |
| EXAMINER | | | | |
| NGUYEN, GEORGE BINH MINH | | | | |
| ART UNIT | | PAPER NUMBER | | |
| 3723 | | | | |

DATE MAILED: 12/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/517,276

Applicant(s)

KLEIN, GERHARD

Examiner

George Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 December 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 4-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 4 and 6 is/are rejected.
- 7) ☐ Claim(s) 5 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 April 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 091204.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Receipt is acknowledged of Applicant's preliminary amendment filed on December 09, 2004.

Claims 1-3 were canceled.

Claims 4-6 were added; and are presented for examination.

Receipt is acknowledged of the IDS filed on December 09, 2004 which has been considered and placed of record in the file.

This application has been filed with formal drawings which are acceptable to the examiner.

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: linear motor (18) (page 4, last paragraph) is not shown in Figure 3. Sleeve (52) is not shown in Figure 4. Lid (166) is not shown in Figure 4. Driven shaft (150) is not shown in Figure 5. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and

informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

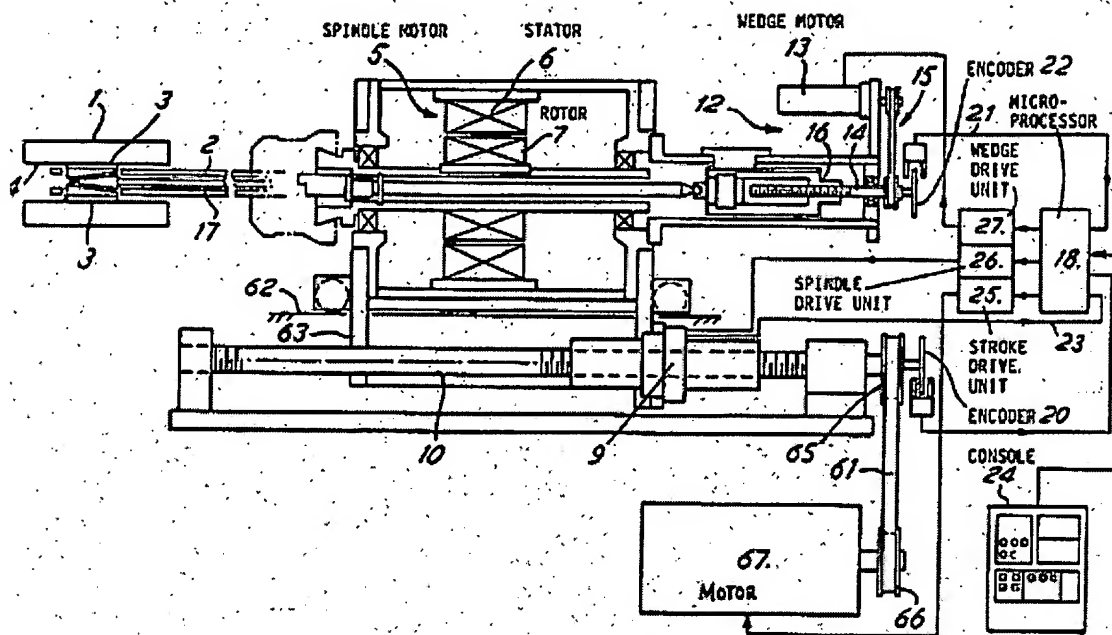
(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 4 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Boulton et al.'4,823,061 in view of Klein et al.' 5,042,202 and Heijlenskold'6,176,767.

With reference to Figure 3, Boulton discloses the claimed invention including:

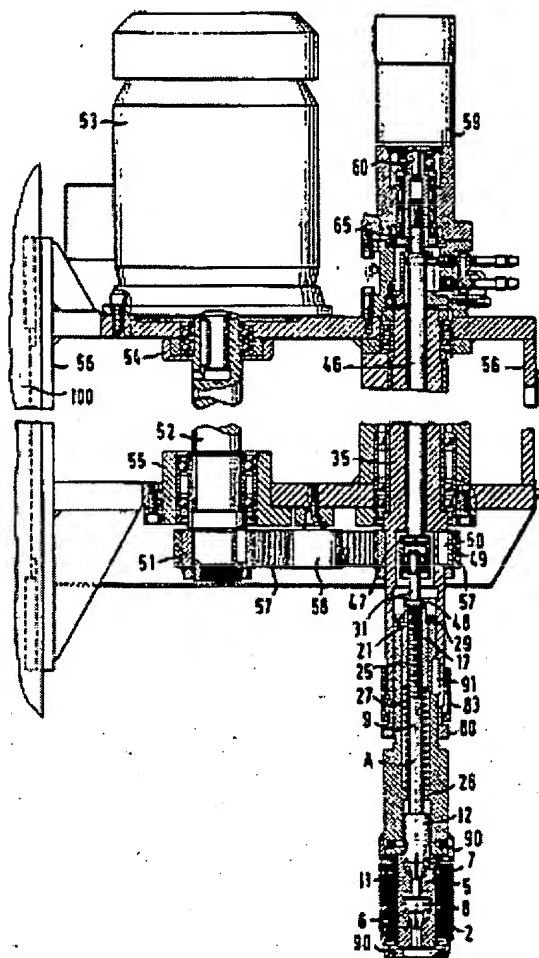
- A spindle housing not reference numbered having a honing spindle disposed in said spindle housing.
- A first electromotor 5 for rotating said honing spindle.
- A bar disposed in said honing spindle.
- A second electromotor 6 for reciprocating said honing spindle.
- A third electromotor to axially displace said bar to widen a honing tool 3.

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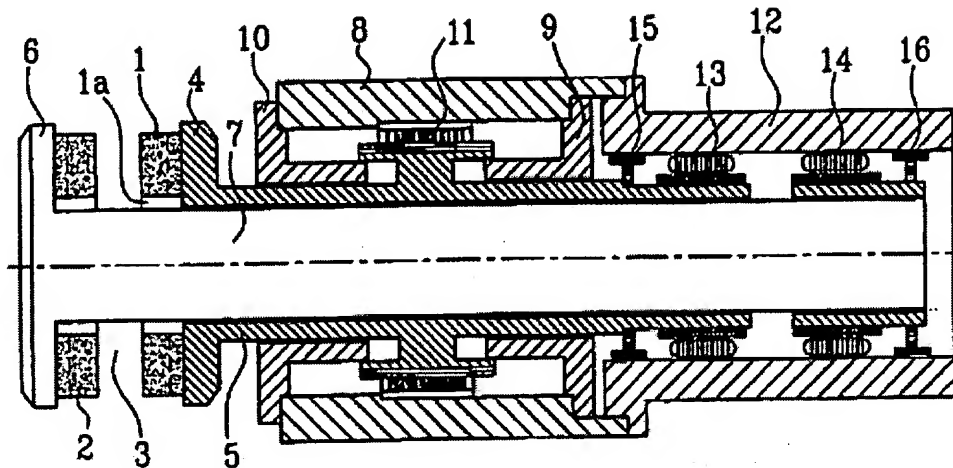


However, Boulton does not disclose an electromotor coaxially flanged to an end of said spindle housing, nor does Boulton disclose a linear motor reciprocating said spindle housing.

With reference to Figure 1, Klein discloses a reciprocating honing apparatus comprising an electromotor 59 coaxially flanged to an end of spindle housing 56 to axially displace bar 9 to widen honing tool 2. The advantage of the coaxial installation of motor 59 is to provide a direct drive to bar 9 in order to make the grinding apparatus more compact, thus reducing footprint of the grinding apparatus.



With reference col. 1, lines 20-30, Keijkenskjöld discloses an abrading apparatus comprising linear motors 13/14 for axial displacement of shafts 5/7. The advantage of linear motor is to provide a machine that is very compact, thereby improving the rigidity and exactness of the machine (col. 1, lines 24-25).



Double face abraders, such as grinding machines, lap- 10
ping machines, honing machines and also milling machines,
etcetera, which are intended simultaneously to machine two
plane-parallel side surfaces of a work piece are often
designed with two tools mounted on slides on two shafts
extending in opposite directions away from the machining 15
gap and which are equipped with separate driving motors.
Furthermore there are feeding equipment and driving means
for the slides, feeding-in device for the work pieces to be
machined and dressing tools e.g. for grinding wheels or the
like, etcetera 20

Taken together this means that the earlier machines have
been bulky and space-requiring.

The purpose of the present invention is to provide a
machine of the type specified hereabove which is very
compact, thereby also improving the rigidity and exactness 25
of the machine, and this has been obtained by giving the
machine the features defined in the accompanying claim 1.

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the honing apparatus of Boulton with a electromotor coaxially installed as taught by Klein et al. in order to provide a direct drive to bar 11 in order to make the grinding apparatus more compact, thus reducing footprint of the grinding apparatus; and further modified with a linear motor as taught by Keijkenskjöld, since Keijkenskjöld states in col. 2, lines 20-25, that such modification

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would to provide a machine that is very compact, thereby improving the rigidity and exactness of the machine (col. 1, lines 24-25).

Allowable Subject Matter

3. Claim 5 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Estabrook'028, Bargren'932, Grimm et al.'662 all disclose honing apparatus with radially expandable honing tool.

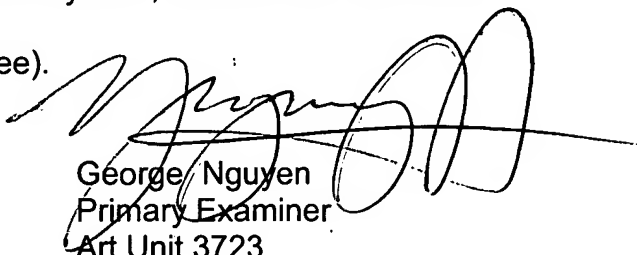
Any inquiry concerning this communication or earlier communications from the examiner should be directed to George Nguyen whose telephone number is 571-272-4491. The examiner can normally be reached on Monday-Friday/630AM-300PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Hail can be reached on 571-272-4485. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

GEORGE NGUYEN
PRIMARY EXAMINER



George Nguyen
Primary Examiner
Art Unit 3723

GN – December 08, 2005